README for CMPT300 Assignment 3

This assignment is a collaboration between Jinhan Liu (301430717) and Tristian Labanowich (301422226).

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PLEASE NOTE WE WILL BE USING 2 LATE DAYS EACH FOR THIS ASSIGNMENT NEITHER OF US HAVE USED LATE DAYS YET

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Collectively we spent about 30-35 hours on the project.

(Tristian): A lot of this time was figuring out the ropes for threads, seeing how to pass arguments properly. having them start the way we wanted to.

I'll be honest in class I didn't fully see the problem and why mutes were needed for an assignment like this but after working through the program I got a good understanding of why they were necessary.

(Jinhan): The heavy emphasis of semaphores on this assignment does show the importance in understanding order of executions.

As someone who has never done socket programming, it took around 5-7 hours to establish a working UDP localhost connection.

The list.h file provided was easy to understand and fast to implement. The trickiest part was getting the semaphores right.

Resources Used:

https://www.youtube.com/watch?v=Emuw71lozdA

https://www.ibm.com/support/knowledgecenter/en/SSLTBW_2.3.0/com.ibm.zos.v2r3.bpxbd00/ptcrea.htm

https://stackoverflow.com/questions/8223742/how-to-pass-multiple-parameters-to-a-thread-in-c

https://www.tutorialspoint.com/c_standard_library/c_function_fflush.htm

https://stackoverflow.com/questions/32205546/confused-with-network-byte-order-and-host-byte-order

https://jameshfisher.com/2016/12/21/htons/

https://linux.die.net/man/3/inet_aton

https://linux.die.net/man/7/ip

https://linux.die.net/man/2/sendto

https://www.youtube.com/watch?v=Emuw71lozdA

https://www.cs.rutgers.edu/~pxk/417/notes/sockets/udp.html

https://www.geeksforgeeks.org/udp-server-client-implementation-c/

https://www.geeksforgeeks.org/socket-programming-cc/

https://www.binarytides.com/programming-udp-sockets-c-linux/

https://habibiefaried.medium.com/cnet-01-basic-c-socket-programming-a818b0da5ae0

https://beej.us/guide/bgnet/

https://linux.die.net/man/3/sem_wait

https://linux.die.net/man/2/recvfrom

https://stackoverflow.com/questions/15739253/including-valgrind-in-makefile/41313703#41313703

https://www.geeksforgeeks.org/use-posix-semaphores-c/

converting IP to int

http://www.aboutmyip.com/AboutMyXApp/IP2Integer.jsp

MUTEXES

https://www.thegeekstuff.com/2012/05/c-mutex-examples/

IP VALIDITY

https://stackoverflow.com/questions/791982/determine-if-a-string-is-a-valid-ipv4-address-in-c